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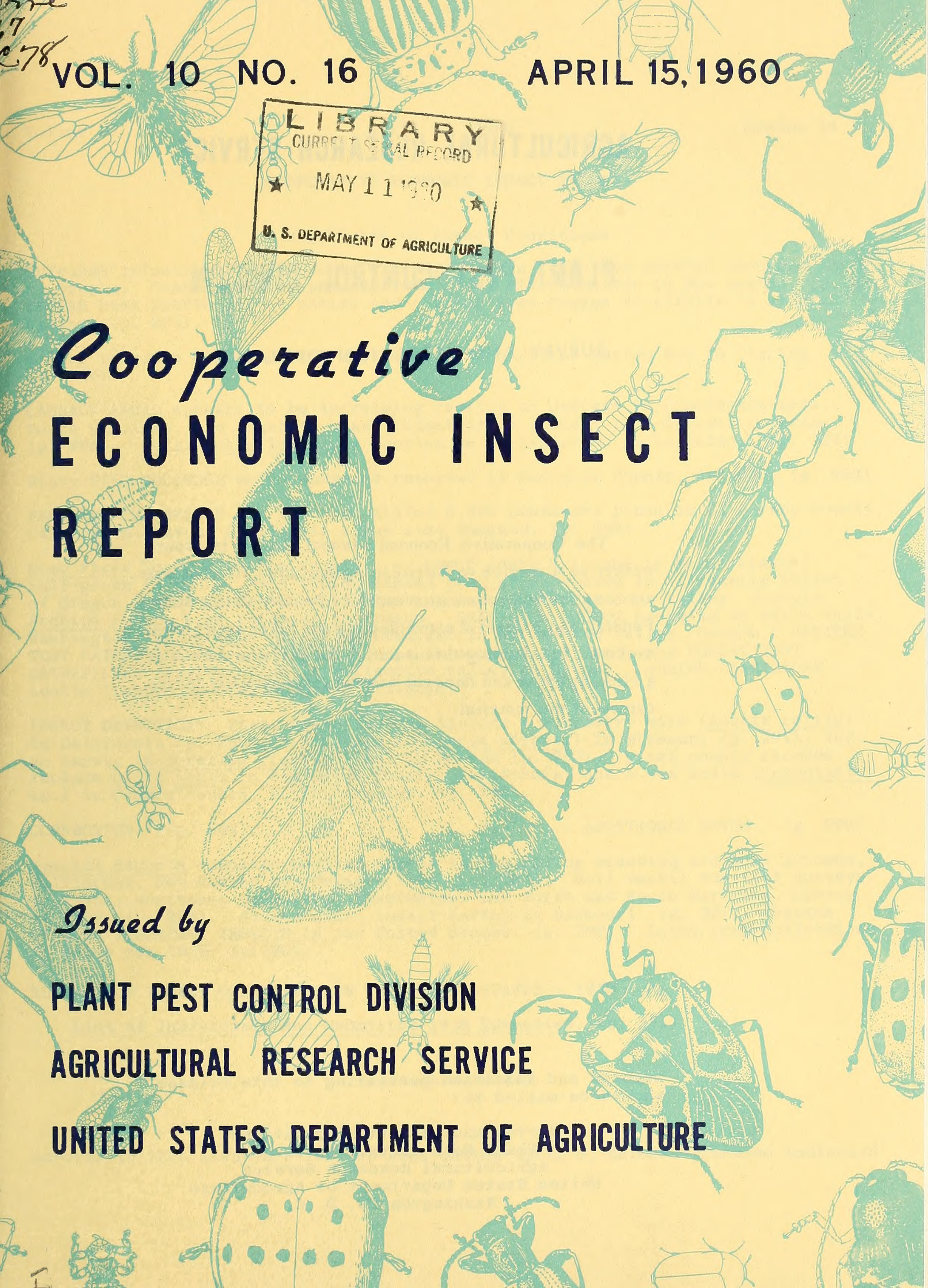

Cooperative
ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 10 April 15, 1960 Number 16

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

CUTWORMS infesting 500,000 acres of rangeland in Idaho and several thousand acres in Oregon. GRASSHOPPER nymphs numerous along Mimbres River in New Mexico. (p.282). CLOVER LEAF WEEVIL larvae active and causing some damage to alfalfa in several states. (p. 283).

Strong increase in CITRUS RED MITE expected in citrus during May in Florida. (p. 285).

CABBAGE APHID appears to be increasing rapidly on cabbage in Charleston area, South Carolina, and light to heavy infestations present in 2 Georgia counties. (p. 286). _Tetranychus lobosus_ a problem on strawberries in Louisiana. (p. 287).

Heavy PINK BOLLWORM moth emergence reported in Maricopa County, Arizona. (p. 287).

WESTERN PINE BEETLE and _Ips_ spp. killed 6,850 ponderosa pines in El Dorado County, California. Other California areas also damaged. (p. 288).

Some First Reports of the Season - APPLE APHID hatching in Pennsylvania; half-grown in Utah. PEAR THRIPS passed peak of emergence in Willamette Valley of Oregon. PLUM CURCULIO adults leaving hibernation at Fort Valley, Georgia. _Archips rosana_ eggs hatching in Oregon. SEED-CORN MAGGOT emerging at Walla Walla, Washington. _Meligethes nigrescens_ emerged in Willamette Valley, Oregon. EASTERN TENT CATERPILLAR larvae present in Louisiana and Maryland, and FOREST TENT CATERPILLAR eggs hatching in Willamette Valley of Oregon. SPRING CANKERWORM adults trapped in Wisconsin and Illinois.

INSECT DETECTION: First State records include a hackberry mite (_Aceria celtis_) in California (p. 290); a parasite (_Comperia merceti_) in Missouri (p. 291); and an earwig (_Euborellia cincticollis_) in Nevada (p. 293). First county records include _olive scale_ in San Mateo County, California; and a wax scale (_Ceroplastes_ sp.) in Camden County, North Carolina. (p. 289).

CORRECTION. (p. 292). ADDITIONAL NOTES. (p. 292).

Special Reports - Potato psyllid survey in the spring breeding areas of Arizona, California, New Mexico and Texas - 1960. (p. 294). Boll weevil survival surveys in Texas, northeast Louisiana, Mississippi and North and South Carolina, spring of 1960. (p. 295). Stored-grain insect survey in Missouri. (p. 297). Status of some IMPORTANT INSECTS in the United States. (p. 299). Light trap collections in Maine for 1958. (p. 302).

SUMMARY OF INSECT CONDITIONS IN THE UNITED STATES - 1959

List of Individuals Who Submitted 1959 Summaries. (p. 301).

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Reports in this issue are for the week ending April 8, unless otherwise indicated.

WEATHER OF THE WEEK ENDING APRIL 11

Temperatures again averaged below normal over most of the eastern half of the Nation and above normal in western areas this week. Generally dry conditions were the rule, and heavy precipitation was largely confined to the Atlantic Coastal States and to scattered areas in the higher elevations of the Western States. Dry, continental, polar air was present throughout the week in most areas east of the Rocky Mountains, with temperatures 6° or more below normal from the Ohio Valley to Iowa. Freezing temperatures over last weekend extended deep into the Southeastern States, with light frost reported in northern Florida, where Cross City had 32° on the 11th. Record low readings for so late in the season included 30° at Charleston, South Carolina, and Augusta, Georgia; and 23° at Rome, Georgia, on the 11th; and 29° at Columbia, South Carolina; and 34° at Savannah, Georgia, on the same date equaled their lowest readings for so late in the spring. Much above-normal temperatures continued for the fourth consecutive week in most of the Rocky Mountains and Western States. Readings of 6° or more above the average were general from the Cascades to the western Great Plains and of 12° or more in the northern Rocky Mountains. Record high temperatures for so early in the spring reported during the week included Helena 77°, Missoula 78°, and Billings 80° in Montana; and Las Vegas, Nevada, 94° on the 5th; Albuquerque, New Mexico, 84° on the 7th and 10th; and Rapid City, South Dakota, 86°, and Casper, Wyoming, 75° on the 10th.

No measurable precipitation was reported over a wide area from the Far Southwest through the Southern Plateau to the Texas and Louisiana coasts, the central Mississippi Valley, and portions of the northern Great Plains. Generally light amounts, under 1/2 inch in most places, were recorded in all other regions from the Pacific Coast to the Appalachians, Generally moderate to heavy precipitation occurred along a cold front early in the week from New England to the Southeastern States. These heavy rains in Georgia and the Carolinas augmented floods on several major streams produced by the excessive rains of the previous week. Cloudy and wet weather continued until the weekend in the Northeastern States, with weekly totals of 1 to more than 2 inches in coastal sections. Light snow flurries occurred on several days in the Great Lakes area, and heavy snows of 1-5 inches were reported from mountainous sections of West Virginia, western Maryland, northern Pennsylvania, and southern New York. Binghamton, New York, had a 7-inch accumulation in 6 hours on the 9th. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (*Toxoptera graminum*) - LOUISIANA - Survey in East Baton Rouge and Washington Parishes on oats revealed counts of 2.6 per linear foot in field in East Baton Rouge Parish and 39.6 per linear foot in 4 fields in Washington Parish. One field in Washington Parish averaged 100 per linear foot. (Spink, Mar. 31). A survey of oat fields in Jefferson Davis and Acadia Parishes revealed comparatively few fields infested. However, in those fields found infested populations were quite large. In one field, more than 1,000 per linear foot counted. Counts ranged 100-500 per linear foot in field of oats in Washington Parish. Predator and parasite activity very low in all fields. (Spink). TEXAS - Heavy and spotted infestations over widespread area of Collin County in wheat and oats; counts 100 per linear foot. (Davis). OKLAHOMA - Extremely light (less than 0.1 per linear foot) in fields of small grain checked in Arkansas River bottom in east central area. (VanCleave, Meharg, Washum). Populations 80-315 per square foot in 2 fields of volunteer oats and 18 per square foot in a field of fall-seeded oats in Choctaw County. (Goin). Light populations noted in wheat field in Payne County (Stiles); in 4 of 8 fields surveyed in Kingfisher, Blaine and Major Counties (Owens); and in wheat field in Kiowa County (Hudson). None noted in other fields checked in Custer, Washita and Kiowa Counties (Hudson) and in fields surveyed in Tillman and Cotton Counties (Hatfield). KANSAS - Not found in wheat fields in southwestern and south central areas. (Peters). UTAH - Few present. (Knowlton).

CORN LEAF APHID (*Rhopalosiphum maidis*) - OKLAHOMA - Light, 6 per linear foot, in a barley field in Cotton County. (Hatfield). None noted in other fields of small grain surveyed. (Okla. Coop. Econ. Ins. Sur.). UTAH - Few present. (Knowlton).

APPLE GRAIN APHID (*Rhopalosiphum fitchii*) - LOUISIANA - Infestations appear very heavy, but spotty, in oats near Hathaway. (Spink). OKLAHOMA - Light, but common, in fields of small grain checked in Arkansas River bottom in east central area. Counts ranged 1-5 per linear foot in most fields, but up to 100 per linear foot in one wheat field in Le Flore County. (VanCleave, Meharg, Washum). Light in 6 of 8 fields surveyed in Kingfisher, Blaine and Major Counties. (Owens). None noted in other fields surveyed in southeast, central, west central and southwest areas. (Goin, Stiles, Hudson, Hatfield).

WINTER GRAIN MITE (*Penthaleus major*) - MISSOURI - Counts in wheat ranged 0-15 per foot of row. (Kyd, Thomas, Munson). OKLAHOMA - Light, 2 and 3 per linear foot, in two wheat fields in Blaine County. (Owens). None noted in other fields of small grain surveyed in State. (Okla. Coop. Econ. Ins. Sur.).

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - ILLINOIS - Surveys in 5 counties in the western area and 1 county in the central area showed survival to be 66.7 percent. Individual fields varied from 56 to 76 percent survival. (Ill. Ins. Rpt.). MISSOURI - Overwintering larvae in New Madrid County ranged 0-1,000 per acre and averaged 92. In Carroll County, north central area, counts averaged 25 larvae per acre. (Fairchild, Keaster, Barry). NORTH CAROLINA - Overwintering population higher than previously observed in Pasquotank County (just under one borer per stalk). Infestation in Beaufort, Pamlico and Camden Counties a little less than in Pasquotank County. Pupation about 10-30 percent complete on April 4-7. Development a few days behind that in 1959 despite cold weather and late-season snow cover. (Farrier).

SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) - MISSOURI - Overwintering survival was 7 percent in several southwestern fields. (Kyd, Thomas, Munson).

WESTERN BLACK FLEA BEETLE (*Phyllotreta pusilla*) - TEXAS - Medium infestation attacking corn in Zavala County. Leaves being noticeably scarred and 2-3 adults found per plant. (Harding).

A BILLBUG (Calendra sp.) - GEORGIA - Light infestations on corn in Colquitt and Thomas Counties. (Johnson).

SEED-CORN BEETLE (Agonoderus lecontei) - KANSAS - Moving in large numbers on March 30 and April 3 near Chase, Rice County, between hours of 2 and 5 P.M. "Bug" screens on cars were full of the beetles on both days. Counts on the ground were 2-4 per square foot on March 30. Populations are declining, but still quite a few on the move. (Keesling).

ARMY CUTWORM (Chorizagrotis auxiliaris) - IDAHO - This species, reported in CEIR 10(15):253, as Agrotis sp., has now been determined to infest over 500,000 acres of rangeland extending from Owyhee County in the southwest to Minidoka and Oneida Counties in the south central area. Counts ranged 2-5 per square foot and larvae predominantly in third and fourth instars. Damage up to April 8 has been confined to rangeland. However, in few locations, larvae found in irrigated pastures. This is first widespread outbreak of this cutworm in many years. (Gittins, Manis, Mink, Koester). WYOMING - Not found in 5 square-foot samples of 12 wheat fields and 5 alfalfa fields checked in Goshen and Laramie Counties. One larva found in grass on roadside. (Fullerton). KANSAS - Few larvae found in wheat fields in southwestern area, particularly along field margins, but in no instances were counts over 1 per square foot. (DePew, Apr. 4). Larvae found in an alfalfa field in Seward County; counts less than 1 per square foot of crown area. (Peters).

CUTWORMS - COLORADO - Undetermined species feeding on alfalfa in Fremont County. (Colo. Ins. Sur.). OREGON - Infesting several thousand acres of rangeland in Malheur County. Particularly heavy populations of late-instar larvae observed in area between Nyssa, Vale and Adrian. (Capizzi).

GRASSHOPPERS - NEW MEXICO - First, second and possibly third-instar nymphs becoming numerous along Mimbres River in Grant County. Counts average 4-6 per square yard. Egg survey made in Union, Curry and Roosevelt Counts showed all egg pods in excellent condition. No predators or parasites noted. By end of March, hatching was noted in Quay, Curry, De Baca, Roosevelt, Chaves, Eddy, Lea and Dona Ana Counties. (N. M. Coop. Rpt.). NORTH DAKOTA - Egg development survey conducted through Stark, Hettinger and Adams Counties in southwestern area. Light to moderate populations were indicated for this area in the 1959 fall grasshopper survey. Egg pods recovered showed Melanoplus bivittatus development in the coagulated stage and M. bilituratus in the eye spot stage. All egg pods appeared in good condition, with little evidence of predation. (N. D. Ins. Rpt.).

PEA APHID (Macrosiphum pisi) - ARIZONA - Populations very heavy in alfalfa, statewide. (Ariz. Coop. Sur.). TEXAS - Counts 100-700 per sweep on alfalfa in Brazos County. (Randolph). Attacking alfalfa and vetch in Rockwall County, 20 per linear foot. (Davis). OKLAHOMA - Light to medium (2-25 per sweep) in all alfalfa and vetch fields checked in east central area. (VanCleave, Washum, Meharg). Light to medium (1-50 per square foot) in 3 fields of alfalfa and vetch checked in Choctaw County. None noted in other fields in same area. (Goin). Light to medium (10-60 per square foot) in 4 fields of alfalfa and clover in Johnston, Bryan and Marshall Counties. (Vinson). Light in alfalfa fields checked in Payne, Garfield and Washita Counties. (Stiles, James, Owens, Hudson). None noted in 4 fields checked in Tillman County. (Hatfield). MISSOURI - Light on alfalfa with 3-4 inches of new growth in Sikeston area. Counts ranged 24-31 per 100 sweeps. (Harrendorf). Counts on alfalfa in southwestern area ranged 0-16 per 100 sweeps. (Kyd, Thomas, Munson). KANSAS - Found in several southwestern and south central counties. Counts ranged from less than one to 50 per sweep in alfalfa. Not found in Kearney and Hamilton Counties. (Peters). UTAH - Moderately numerous on alfalfa in St. George area of Washington County. (Knowlton). OREGON - Populations very low in Umatilla, Morrow, Baker and Malheur Counties. (Capizzi). DELAWARE - Averaged 20-25 per sweep in New Castle County and slightly less in Kent County on alfalfa. (Burbutis, Mason).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Infestations in southwest and central areas declining. In Safford area, some infestations still heavy, with considerable damage occurring in some fields. (Ariz. Coop. Sur.). TEXAS - Counts 30-60 per sweep in alfalfa in Brazos County. (Randolph). OKLAHOMA - Extremely light, less than 0.1 per square foot, in alfalfa in Arkansas River area of east central Oklahoma. (VanCleave, Meharg, Washum). Light to heavy in 4 fields of alfalfa in Tillman County (Vinson) and light to medium in 2 fields checked in Washita County (Hudson). Light in Choctaw County fields checked (Goin), and light in 3 alfalfa fields surveyed in Johnston and Bryan Counties (Vinson). Counts ranged 1-2 per square foot in alfalfa fields checked in Payne County. (James). KANSAS - Found only on alfalfa on roadside embankments in Pratt, Barber and Harper Counties; and in an alfalfa field with southern exposure in Barber County. Counts were less than 1 per sweep. (Peters). OREGON - Not found in alfalfa in Malheur, Umatilla, Morrow and Baker Counties. (Capizzi).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Populations building up in alfalfa in Dona Ana County. Light infestations, averaging 3 per 5 sweeps, in Roosevelt County. (N. M Coop. Rpt.). OKLAHOMA - Light in fields of alfalfa in east central area. (VanCleave, Meharg, Washum). Light in alfalfa field in Bryan County. (Vinson). UTAH - Moderately numerous on alfalfa in St. George area of Washington County. (Knowlton). WYOMING - Averaged less than one per sweep in alfalfa fields surveyed in Goshen County. (Fullerton). OREGON - L. hesperus quite active in cultivated areas of eastern area. Counts of 3-5 adults per sweep not uncommon in Umatilla, Morrow, Baker and Malheur County alfalfa fields. (Capizzi).

CLOVER LEAFHOPPER (Aceratagallia sanguinolenta) - UTAH - Common in alfalfa at Manti and in Salt Lake County. (Knowlton).

ALFALFA WEEVIL (Hypera postica) - DELAWARE - Young, first-instar larvae present, but scarce, on alfalfa in New Castle and Kent Counties. (Burbutis, Mason). MARYLAND - Small numbers of adults taken on alfalfa in Worcester County. No general hatch to April 6. (U. Md., Ent. Dept.). PENNSYLVANIA - Adults in flight in Lancaster County on March 29. (Negley). GEORGIA - Larvae infesting alfalfa at 1-6 per bud in Hancock, Oconee and Madison Counties. Fifty to 70 percent of plants showing feeding injury. Alfalfa now 6 inches high. (Robertson, Jordan, Johnson). COLORADO - Egg deposition started in Larimer and Weld Counties. (Colo. Ins. Sur.). UTAH - Adults and larvae one-third grown in some Washington County alfalfa fields. Activity noted in Sanpete and Box Elder Counties. Less than usual stubble spraying has been carried on in the State this spring. (Knowlton). OREGON - Active in Umatilla, Morrow, Baker and Malheur Counties, but not common. (Capizzi).

CLOVER LEAF WEEVIL (Hypera punctata) - DELAWARE - Larvae, several instars, fairly common on alfalfa in New Castle and Kent Counties. Feeding injury noticeable but not heavy. (Burbutis, Mason). MARYLAND - Light larval injury noted on alfalfa at Snow Hill, Worcester County. (U. Md., Ent. Dept.). ILLINOIS - Check of 3 clover fields in central and western areas showed 1, 19 and 7 larvae per square foot; all first and second instars. (Ill. Ins. Rpt.). IDAHO - Larvae abundant in some fields of clover and alfalfa in Idaho County; some damage apparent. (Cook). MISSOURI - Counts on alfalfa in southwestern area ranged 0-3 first to fourth-instar larvae per crown. Some larvae showing symptoms of a fungus disease. (Kyd, Thomas, Munson). KANSAS - Larval counts averaged less than 1 per square foot of crown in southwestern and south central areas. (Peters).

CLOVER ROOT CURCULIO (Sitona hispidula) - ILLINOIS - Adults numbered 0, 1 and 2 per square foot in 3 clover fields checked in central and western areas. (Ill. Ins. Rpt.). MARYLAND - Adults light in alfalfa at Bushwood, St. Marys County. (U. Md., Ent. Dept.).

VARIEGATED CUTWORM (Peridroma margaritosa) - LOUISIANA - Present in most white clover fields in Jefferson Davis Parish. Infestations ranged from light to very heavy, with as many as 16 second and third-instar larvae per square foot. No larvae evident in 6 fields of white clover checked in Vermilion Parish. Predator and parasite activity very low in all fields. (Spink).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - MARYLAND - Light in alfalfa at Bushwood, St. Marys County. (U. Md., Ent. Dept.). UTAH - Active in Washington County. (Knowlton).

A MITE (Petrobia apicalis) - LOUISIANA - Vetch bordering railroad tracks at Diamond heavily infested and badly damaged. (Spink, Mar. 31). Infestations in clover almost nonexistent; one field lightly infested. (Spink).

A BEETLE (Colaspis sp.) - ARKANSAS - Additional surveys show fewer than one larva per square foot in Clay and Green Counties. (Boyer).

GREEN JUNE BEETLE (Cotinis nitida) - NORTH CAROLINA - Larvae numerous in a lawn in Rowan County. (Corriher, Farrier).

DIAMONDBACK MOTH (Plutella maculipennis) - CALIFORNIA - Medium larval infestation on flax in El Centro, Imperial County. (Cal. Coop. Rpt.).

FRUIT INSECTS

APPLE APHID (Aphis pomi) - DELAWARE - Present on apple trees in Kent County. (Kelsey). PENNSYLVANIA - Hatching on apple in south central part of the State. (Pepper). UTAH - Common and half-grown on apple tips in Davis, Weber and Cache County orchards. (Knowlton).

GREEN PEACH APHID (Myzus persicae) - COLORADO - Hatching in Larimer County. (Colo. Ins. Sur.). WASHINGTON - Abundance of eggs found during the early spring; now moderate to heavy egg hatch on peach. (Anthon). UTAH - Curling peach foliage at Hurricane, La Verkin and Toquerville, Washington County. (Knowlton).

APHIDS (undetermined) - ILLINOIS - Eggs began hatching April 2 at Carbondale. Egg populations generally very low. (Meyer). UTAH - Three unspecified species infesting plum foliage at Hurricane and Santa Clara, Washington County. Some trees already severely curled. (Knowlton).

RUSTY PLUM APHID (Hysteroneura setariae) - LOUISIANA - Heavy infestations noted on plums in East Baton Rouge Parish. (Spink).

ITALIAN PEAR SCALE (Epidiaspis piricola) - CALIFORNIA - Heavy on plum trees in San Pablo, Contra Costa County. (Cal. Coop. Rpt.).

A SCALE INSECT (Lecanium pruinosum) - CALIFORNIA - Remains active on walnuts in the Redding area of Shasta County. A parasite actively evident. (Cal. Coop. Rpt.).

PEAR PSYLLA (Psylla pyricola) - OREGON - Began egg deposition in the Hood River Valley on March 21. Newly hatched nymphs detected April 7. (Ellertson).

PEAR THRIPS (Taeniothrips inconsequens) - OREGON - Passed peak of emergence week of April 3 in Willamette Valley. Infestations appear light for 1960 season. (Jones). UTAH - Active on orchard blossoms in Utah and Salt Lake Counties. (Knowlton).

A THRIPS (Frankliniella occidentalis) - CALIFORNIA - Adults light to heavy on nectarine flowers and light on pears in Littlerock and Valyermo areas, Los Angeles County. (Cal. Coop. Rpt.).

EUROPEAN RED MITE (Panonychus ulmi) - ILLINOIS - Dormant egg populations vary a great deal from one location or variety to another in Carbondale area. Populations generally much lower than the previous two years, but some blocks of trees have enough potential for destructive populations to warrant special controls before cover sprays. (Meyer).

PLUM CURCULIO (Conotrachelus nenuphar) - GEORGIA - Adults have been leaving hibernation and appearing on peach trees in orchards since March 31 at Fort Valley. An average of 0.8 curculio per tree was taken in a commercial orchard on March 31 and 0.9 per tree on April 1. The mean temperature was 60° F. for 4 days before the first curculios were taken. (Snapp). LOUISIANA - Activity observed in East Baton Rouge Parish on plum during period April 1-7. (Spink).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - OREGON - Infestation reported in a Polk County prune orchard; numerous webbed buds and leaves observed. (Goeden).

A LEAF ROLLER (Archips rosana) - OREGON - Overwintering eggs observed hatching in Marion County, April 6. (Every).

PEACH TWIG BORER (Anarsia lineatella) - UTAH - Damaging peach orchards in Hurricane-Toquerville and Santa Clara-St. George areas of Washington County. Much control being applied later than recommended. (Knowlton).

PECAN NUT CASEBEARER (Acrobasis caryae) - FLORIDA - Infestation heavy on pecan trees not treated in 1959 at Monticello, averaging 2-3 larvae per twig on 50 twigs checked. All larvae active and feeding on buds. (Phillips, Mar. 31).

PECAN LEAF CASEBEARER (Acrobasis juglandis) - FLORIDA - Larvae active and feeding on buds of pecans at Monticello. (Phillips, Mar. 31).

HICKORY SHUCKWORM (Laspeyresia caryana) - FLORIDA - First moths emerged in cages at laboratory in Monticello, March 14, as compared with February 24 in 1959. Moth emergence still slow due to cool weather. (Phillips, Mar. 31).

CITRUS MITE (Panonychus citri) - LOUISIANA - Counts taken April 1 on citrus in Plaquemines Parish were extremely low. (Spink).

Citrus Insect Situation in Florida - End of March - PURPLE SCALE (Lepidosaphes beckii) activity is holding at a very low level and will not change importantly during April. Although populations may increase slightly in the next two months, no heavy infestations are expected in any district. FLORIDA RED SCALE (Chrysomphalus aonidum) activity and populations presently are below average and generally will remain low this spring. An upward trend is expected to start the last half of April. None of the districts show more than moderate activity at present. CITRUS RED MITE (Panonychus citri) - The generally low level of activity that prevailed in March will persist through April. A strong increase is expected in May. A few groves now have moderate to high infestations and this spotty situation will be common in all districts. Highest activity is in the Bartow, upper east coast districts. CITRUS RUST MITE (Phyllocoptruta oleivora) activity was above average for March, but it is now decreasing and will generally trend downward through April. Nearly all districts have some groves with high infestations. Highest activity is in the Bartow and west coast districts. SIX-SPOTTED MITE (Eotetranychus sexmaculatus) is numerous in certain groves that usually harbor this pest. The statewide infestations are about average. Although APHIDS are in average abundance over the State as a whole, many young groves and some mature groves have heavy infestations on leaves and blossoms. CHAFF SCALE (Parlatoria pergandii) is increasing. (Simanton, Thompson, Johnson (Citrus Exp. Sta., Lake Alfred)).

TRUCK CROP INSECTS

CABBAGE APHID (Brevicoryne brassicae) - SOUTH CAROLINA - Infested plants, some seriously damaged, scattered through most cabbage plantings in Charleston area. Injury to April 2 has been relatively light. Natural enemies scarce and population appears to be increasing rapidly. Adverse weather prevented use of controls. (Reid). GEORGIA - Light infestations on cabbage in Colquitt County and moderate to heavy infestations on cabbage in Brooks and Lowndes Counties. (Johnson). LOUISIANA - About 50 percent of cabbage plants in St. Martin Parish infested. (Spink).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Third and fourth-instar larvae causing heavy damage to peas in Zavala County, particularly in upper leaves. (Harding). Damage light in lettuce and cabbage fields in Rio Grande Valley and increasing infestations attacking tomatoes in western part of the valley. (Deer). LOUISIANA - Numbers extremely low. (Spink).

DIAMONDBACK MOTH (Plutella maculipennis) - LOUISIANA - Approximately 25 percent of untreated cabbage plants in Plaquemines Parish infested and about 2 percent of cabbage plants in St. Martin Parish infested. (Spink).

SOUTHERN CABBAGEWORM (Pieris protodice) - TEXAS - Light infestations of sixth-instar larvae attacking turnips in Zavala County; infestations expected to increase. (Harding).

CABBAGEWORMS - SOUTH CAROLINA - Populations lower than usual for time of year in Charleston area. Many spring-crop plantings may be harvested before controls become necessary. (Reid).

HARLEQUIN BUG (Murgantia histrionica) - TEXAS - Attacking crucifers in Brazos County. (King).

A THRIPS (Frankliniella occidentalis) - TEXAS - Light infestations averaging 3-5 per plant found on onions in Zavala and Dimmit Counties. (Harding). ARIZONA - Heavy infestations, probably this species, in Cochise County lettuce requiring controls. (Ariz. Coop. Sur.).

TOMATO FRUITWORM (Heliothis zea) - TEXAS - Damaging lettuce in Rio Grande Valley and very light in western part of the valley. (Deer).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - TEXAS - Light to medium infestations in potato, eggplant, pepper and melons in Zavala County. Feeding evident and adult numbers range from medium to heavy. (Harding).

GRANULATE CUTWORM (Feltia subterranea) - LOUISIANA - Causing considerable damage to field of peppers at Ponchatoula. From 1-5 seedling plants per 200 feet of row either cut off or withdrawn below soil surface. (Spink, Mar. 31).

POTATO PSYLLID (Paratrioza cockerelli) - TEXAS - Some damage reported in the western portion of Rio Grande Valley. (Deer).

BEET LEAFHOPPER (Circulifer tenellus) - NEW MEXICO - Populations averaged 0.15 per square yard in southeastern and southern areas. (N. M. Coop. Rpt.). OREGON - Low overwintering population present in Hermiston area. A poor host plant relationship exists, with grasses crowding out the host annuals. (Capizzi). UTAH - Few numbers now present in sugar beet seed fields near Washington. (Knowlton).

LYGUS BUGS (Lygus spp.) - WASHINGTON - Adults damaging sugar beet seedlings at Toppenish, Wapato and Brownstown. About 200 acres damaged; 36,000 acres could be affected later. (Landis).

ASPARAGUS BEETLES (*Crioceris asparagi* and *C. duodecimpunctata*) - UTAH - Damaging in Davis County. (Knowlton).

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - GEORGIA - Light infestations on snap beans in Brooks and Thomas Counties. (Johnson).

SEED-CORN MAGGOT (*Hylemya cilicrura*) - WASHINGTON - Spring brood emerging at Walla Walla. (Woodworth).

A SERPENTINE LEAF MINER (*Liriomyza* sp.) - FLORIDA - Collected on potatoes, tomatoes and other vegetables in the Redlands area of Dade County on March 30. Fewer numbers present than in previous weeks. (Wolfenbarger).

A LEAF MINER - TEXAS - An unknown species causing light damage to peppers, cantaloups, watermelons and cucumbers in the Rio Grande Valley. (Deer).

A NITIDULID (*Meligethes nigrescens*) - OREGON - Began emerging in Willamette Valley week of April 3. Adults abundant wherever spring blooming plants occur. (Every).

GARDEN SYMPHYLID (*Scutigerella immaculata*) - IDAHO - An extremely heavy infestation found in a garden at Orofino. (Fitzsimmons).

SPIDER MITES (*Tetranychus* spp.) - LOUISIANA - Infestations of *T. lobosus* on strawberries at Ponchatoula remain heavy and spotty; fields being treated by some growers. (Spink, Mar. 31). *T. lobosus* continues to be a problem on strawberries where treatments have not been made in Tangipahoa Parish. (Spink). TEXAS - Increasing infestations of an unknown species found on tomatoes in the western portion of Rio Grande Valley. (Deer).

RASPBERRY ROOT BORER (*Bembecia marginata*) - OREGON - Early instar larvae observed feeding at base of new buds in Marion County raspberry plantings on March 23. (Rosenstiel).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - GEORGIA - Light infestations on tobacco in the plant bed in Mitchell, Colquitt, Thomas, Brooks, Lowndes, Cook, Berrien, Coffee and Wayne Counties; and light to heavy infestations in Tattnall County. Light infestations on tobacco in the field in Thomas County. (Johnson).

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - GEORGIA - Light infestations on tobacco in the plant bed in 10 counties. (Johnson).

APHIDS - GEORGIA - Light to moderate infestations on tobacco in the plant bed in 10 counties. (Johnson).

COTTON INSECTS

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - Heavy moth emergence in Maricopa County has been indicated by the collection of 18 moths in one night from light traps. Collections were made in traps located in different areas throughout the county. (Ariz. Coop. Sur.) FLORIDA - Larvae collected on wild cotton south of Whale Harbor, Monroe County, on March 27. Det. by R. A. Newkirk. (Creamer).

CUTWORMS - TEXAS - Scattered infestations of unknown species present in lower Rio Grande Valley, but greatest damage reported in Hidalgo County. (Deer).

COTTON APHID (Aphis gossypii) - TEXAS - Light to medium infestation on early cotton (3-6 leaf stage) in Cameron County. No natural control noticed. (Day).

DARKLING BEETLES - TEXAS - Unknown species reported in many areas, but damage reported only in a small section of Willacy County. Thickly planted cotton showing little damage, but where cotton stand was thin, damage was severe in a few fields. (Deer).

SPIDER MITES - TEXAS - Unspecified species present in scattered fields. (Deer).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

WESTERN PINE BEETLE (Dendroctonus brevicomis) - CALIFORNIA - This species and Ips spp. seriously affecting forest stands in El Dorado, Nevada and Calaveras Counties; heaviest damage in El Dorado County, where an estimated 6,850 ponderosa pines of all ages have been killed. This area in Sierra foothills is probably hardest hit in State. (C. B. Eaton). Severe, killing up to 50 ponderosa pines in groups on both government and private lands in Nevada City area of Nevada County. Damage increasing. (F. Sodolski).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - SOUTH CAROLINA - Adults of this species and Ips spp. active and attacking ice-damaged trees in Edgefield and Saluda Counties on April 1. Indications are that D. terebrans had been active only a day or two, with Ips activity a few days older. (Fox). ARKANSAS - Some increase in activity reported. (Ark. For. Pest Rpt.).

A PINE REPRODUCTION WEEVIL (Cylindrocopturus eatoni) - CALIFORNIA - Seriously affecting a 5 to 6-year-old plantation and natural reproduction of ponderosa pine in Sierra National Forest adjacent to Nelson Cove burn of 1959. (Cal. Coop. Rpt.).

WHITE-PINE WEEVIL (Pissodes strobi) - PENNSYLVANIA - Adults feeding on terminals of white pines at Blair, Perry County, March 31. (Negley).

ORANGE TORTRIX (Argyrotaenia citrana) - WASHINGTON - Moderate damage on Douglas-fir and pines in a greenhouse at Centralia. Mining in terminal and lateral buds, feeding on needles. (Johnson).

A PHYCITID (Dioryctria abietella) - LOUISIANA - Larvae moderately infesting one loblolly pine near Amite. (Spink, Mar. 31).

PINE BARK APHID (Pineus strobi) - WISCONSIN - Populations noted on Jefferson County white pine which was heavily infested and damaged in 1959 by aphids, presumably this species. As yet, eggs present have not hatched. (Wis. Coop. Sur.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - IDAHO - A mugho pine infestation reported from Sandpoint. (McPherson).

PANDORA MOTH (Coloradia pandora) - CALIFORNIA - An infestation, which has persisted for several years in the Mt. Laguna area, is apparently building up in an off-cycle year. The flight cycle of this insect, which has a 2-year life cycle, is predicted in the Rocky Mountains and Pacific Northwest. Moths are now in the pupal stage in these latter areas. The Laguna-Corte Madera moth flights occurred in 1959. (J. W. Peterson, C. B. Eaton).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - LOUISIANA - Larvae hatching on laurelcherry trees in East Baton Rouge Parish. Webs about 4 inches in diameter. (Spink, Mar. 31). MARYLAND - First larvae of season noted on Prunus sp. at Salisbury, Wicomico County. (U. Md., Ent. Dept.).

GREAT BASIN TENT CATERPILLAR (*Malacosoma fragile*) - UTAH - Damaging cottonwood foliage in an area of Washington County, especially along Virgin River. (Knowlton).

FOREST TENT CATERPILLAR (*Malacosoma disstria*) - COLORADO - Egg masses four times as abundant as in 1959. (Colo. Ins. Sur.). OREGON - Began hatching in Willamette Valley the week of April 3. (Capizzi).

DOGWOOD BORER (*Thamnosphecia scitula*) - NORTH CAROLINA - Larvae injuring 18-20 dogwood trees locally in Wayne County. (Jones, Farrier).

AN OLETHREUTID (*Anchylopera platanana*) - FLORIDA - First adult observed on April 4 on planetree (*Platanus* sp.) at Gainesville, Alachua County. Buds just beginning to open on a few planetrees. Adults of this species first observed in 1959 on March 13. (Denmark).

ROOT WEEVILS - OREGON - Undetermined species severely damaged a Eugene nursery planting of rhododendron. Several hundred 4-year-old plants killed; apparently root damage suffered during fall of 1959. (Larson).

AN ARBORVITAE APHID (*Cinara* sp.) - OKLAHOMA - Light to heavy on arborvitae in parks and cemeteries checked in east central area (VanCleave, Meharg, Washum); light on same host in Bristow, Creek County (Stiles); and heavy on arborvitae in Cotton County (Hatfield).

APHIDS - IDAHO - Young stem mothers of an undetermined species found on dogwood terminals at Caldwell. (Bechtolt).

AN APHID (*Thoracaphis umbellulariae*) - CALIFORNIA - This species and *Tetraleurodes errans* (a whitefly) heavy on California bay (*Umbellularia californica*) in Castro Valley, Alameda County. (Cal. Coop. Rpt.).

CHRYSANTHEMUM APHID (*Macrosiphoniella sanborni*) - MARYLAND - Infesting chrysanthemums at University Park, Prince Georges County. (U. Md., Ent. Dept.).

VIBURNUM APHID (*Anuraphis viburniphila*) - WISCONSIN - Eggs remain unhatched in Dane County where they are numerous on ornamental viburnums. (Wis. Coop. Sur.).

A THRIPS (*Leucothrips* sp.) - FLORIDA - Collected on croton at Ft. Lauderdale, Broward County, by J. M. Soowal on November 20, 1959. Det. by K. O'Neill as *Leucothrips* sp., near or *furcatus*. *L. furcatus* has not been previously recorded in Florida. (Fla. Coop. Sur.).

A HACKBERRY PSYLLID (*Pachypsylla venusta*) - OKLAHOMA - Heavy populations, probably this species, emerging in Stillwater area of Payne County. (Howell, Drew).

OLIVE SCALE (*Parlatoria oleae*) - CALIFORNIA - Light infestation present on *Fraxinus velutina* var. *glabra* (Modesto ash) in Menlo Park, San Mateo County. This is a first record for the county. (Cal. Coop. Rpt.).

SAN JOSE SCALE (*Aspidiotus perniciosus*) - OKLAHOMA - Heavy on flowering quince checked in Sapulpa, Creek County, and Stillwater, Payne County. (Howell, Drew). CALIFORNIA - Heavy on *Photinia* sp. in Yuba City, Sutter County. (Cal. Coop. Rpt.).

A WAX SCALE (*Ceroplastes* sp.) - NORTH CAROLINA - Infesting Chinese holly in Camden County. First report from this county. (Tuten, Farrier).

SCALE INSECTS - NORTH CAROLINA - Severe infestation of *Pseudaonidia paeoniae* on camellia locally in Robeson County. (Pl. Dis. Clin., Farrier). PENNSYLVANIA - Heavy infestation of *Lepidosaphes yanagicola* present on young nursery stock of *Euonymus alatus compactus* at Sandy Hill, Lebanon County. (Negley). CALIFORNIA - *Epidiaspis piricola* light on English walnuts in Atherton, San Mateo County. *Coccus elongatus* and *Chrysomphalus dictyospermi* medium on *Ficus retusa* in San Diego, San Diego County. *Aspidiotus degenerata* heavy on camellias in Marysville, Yuba County. (Cal. Coop. Rpt.).

A HACKBERRY MITE (Aceria celtis) - CALIFORNIA - Large bud clusters severely deforming hackberry trees along Highway 99 at Monterey overpass in Fresno County. This is the first report of this species in the State. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - IDAHO - An adult male collected at Homedale. (Wood).

SPRING CANKERWORM (Paleacrita vernata) - WISCONSIN - Eleven adult males trapped in blacklight trap at Middleton on April 6-7. (Wis. Coop. Sur.). ILLINOIS - Adults observed at Urbana on April 3. (Ill. Ins. Rpt.).

EUROPEAN ELM SCALE (Gossyparia spuria) - CALIFORNIA - Heavy on elms in Port Costa, Contra Costa County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

FACE FLY (Musca autumnalis) - NEW YORK - Adults active out-of-doors on sunny sides of buildings in Steuben County on March 29. (Matthysse). PENNSYLVANIA - Apparently present in a home at Sewickley, Allegheny County, all winter. Det. C. W. Sabrosky. (Mallis, March 11).

CATTLE GRUBS (Hypoderma spp.) - UTAH - Up to 50 per animal present in untreated cattle in parts of Sanpete County; 1,027 found in 120 untreated cattle. Counts from 4,800 cattle sprayed with a systemic in October 1959 showed only 29 grubs present in 299 head. (Knowlton).

MOSQUITOES - DELAWARE - Very light larval populations (second instar) of Aedes canadensis found in one area of New Castle County. (Tindall). UTAH - Small numbers of unspecified species have appeared in the Washington-Santa Clara area of Washington County. (Knowlton).

HORSE BITING LOUSE (Bovicola equi) - MARYLAND - Heavily infesting ponies at Riverdale, Prince Georges County. (U. Md., Ent. Dept.).

CATTLE LICE - OKLAHOMA - Isolated cases of heavy infestations of unspecified species in cattle herds continued to be reported in the east central area. (Washum). UTAH - Rare on 4,800 cattle treated with systemics in the fall of 1959 in the southern Ephraim-Manti area of Sanpete County, but are abundant in some untreated herds at nearby Ephraim and Gunnison. (Knowlton).

TROPICAL RAT MITE (Ornithonyssus bacoti) - CALIFORNIA - Heavy infestation invading a residence in Oroville, Butte County, severely annoying occupants. (Cal.Coop.Rpt.).

AMERICAN DOG TICK (Dermacentor variabilis) - OKLAHOMA - Relatively light adult numbers appearing on dogs in Payne County area. (Howell).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - NORTH DAKOTA - Survey is underway. All specimens submitted for determination have been negative. The most frequent dermestid species identified have been T. parabile and Attagenus sp.(N.D. Ins.Rpt.).

INDIAN-MEAL MOTH (Plodia interpunctella) - NEW MEXICO - Larvae and adults very common in stored grain checked. One exceptionally heavy infestation found in cracked grain at Gila, Grant County. (N. M. Coop. Rpt.).

BENEFICIAL INSECTS

LADY BEETLES - OKLAHOMA - H. convergens adults common and active in most fields checked in east central area; counts 0.1-0.5 per linear foot in small grain and 0.1-0.7 per sweep in alfalfa and vetch. (VanCleave, Meharg, Washum). None noted in Choctaw County (Goin), nor in Payne County (Stiles); counts ranged 0.05-1 per linear foot in fields of small grain and alfalfa in Garfield, Kingfisher, Blaine and Major Counties (Owens); none noted in southwestern areas (Hatfield); counts averaged 0.25 and 0.5 per square foot in 2 fields of alfalfa and clover in south central area. (Vinson). KANSAS - Hippodamia convergens, primarily,found in 35 percent of the wheat and alfalfa fields checked in southwest and south central areas. Counts ranged from 0 to less than 2 adults per sweep over the area.(Peters). UTAH - Adalia bipunctata extremely abundant on aphid-infested snowball bushes at Logan, Cache County, at this time. Unspecified lady beetles, as well as several other beneficial insects, now active in pea aphid-infested fields in Washington County. A. bipunctata also feeding on apple aphid populations present in apple orchards in Davis, Weber and Cache Counties. (Knowlton). IDAHO - Adults active throughout Canyon County. (Bechtolt). OREGON - Numerous in alfalfa fields in Umatilla, Morrow, Baker and Malheur Counties. (Capizzi).

NABIDS (Nabis spp.) - OKLAHOMA - Only an occasional specimen noted in fields checked in west central area (VanCleave, Meharg, Washum) and in southwestern areas (Hatfield). None noted in remaining fields surveyed throughout State. (Okla. Coop. Econ. Ins. Sur.). KANSAS - Found in 20 percent of the wheat and alfalfa fields checked in the southwestern and south central areas. Counts averaged less than 1 per sweep. (Peters). OREGON - Numerous and active in alfalfa fields checked in Umatilla, Morrow, Baker and Malheur Counties. (Capizzi).

LACEWINGS (Chrysopa spp.) - IDAHO - Adults active in the Caldwell area; no eggs observed. (Bechtolt). OREGON - Numerous and active in alfalfa fields in Umatilla, Morrow, Baker and Malheur Counties. (Capizzi).

POLLINATING INSECTS - LOUISIANA - Activity of unspecified species was very light in clover in Jefferson Davis Parish. (Spink).

A BROWN-BANDED ROACH PARASITE (Comperia merceti) - MISSOURI - Picked up in a house in Jefferson City. This is a first record in the State. (Anderson).

A GRASSHOPPER MITE (Eutrombidium sp.) - MISSOURI - Counts in one location in Boone County ranged 0-15 per square yard, with an average of 3-5 per square yard. (Huggans).

MISCELLANEOUS INSECTS

ELM LEAF BEETLE (Galerucella xanthomelaena) - IDAHO - Adults active in basements and upstairs of homes in Caldwell. (Bechtolt).

A MAY BEETLE (Phyllophaga sp.) - LOUISIANA - The first flight of this species was observed in East Baton Rouge Parish during the period April 1-7. (Spink).

BOXELDER BUG (Leptocoris trivittatus) - DELAWARE - Very numerous in several homes in New Castle County. (Burbutis, Mason). WYOMING - A serious problem around some homes in Cheyenne, Laramie County. (Stanford). NEW MEXICO - Nuisance in and around homes in Albuquerque area, Bernalillo County. (N. M. Coop. Rpt.).

BROWN-BANDED ROACH (Supella supellectilium) - UTAH - Has become a more serious pest during the past 2 years in Washington County. (Knowlton).

A SPRINGTAIL (Achorutes sp.) - NORTH DAKOTA - Observed frequently on snow drifts in Billings County. Occurrence reports have been more numerous than usual. (N. D. Ins. Rpt.).

CLOVER MITE (*Bryobia praetiosa*) - OKLAHOMA - Becoming active around dwellings and causing concern to homeowners in central, east central and south central areas. (Howell, Vinson, Brown).

TERMITES - NEW JERSEY - Swarms quite numerous. (Ins. Dis. Newsl., Apr. 5). MARYLAND - *Reticulitermes flavipes* observed in St. Marys County. (U. Md., Ent. Dept.). NORTH CAROLINA - *R. flavipes* found infesting a home in Robeson County. (Jones, Farrier), and *R. virginicus* found infesting a home in Forsyth County (Wright). ILLINOIS - *R. flavipes* observed swarming in a house in Richland County on April 1. (Ill. Ins. Rpt.). IDAHO - An infestation of *Reticulitermes hesperus* reported in Weiser. (Hackler).

LARGER YELLOW ANT (*Lasius interjectus*) - MARYLAND - Infestations present in homes in Anne Arundel and Prince Georges Counties, March 29 and April 1. (U. Md., Ent. Dept.).

WESTERN HARVESTER ANT (*Pogonomyrmex occidentalis*) - UTAH - This species now clearing forage from about nests in many parts of Washington County. *P. barbatus* also encountered near Virgin and Washington. (Knowlton).

AN ANT (*Formica montana*) - TEXAS - Heavy infestations reported in hay meadows on one ranch in northeastern Hutchinson County; mounds every 10-15 feet in hay meadows. (Russell).

HOUSE CENTIPEDE (*Scutigera coleoptrata*) - FLORIDA - Collected at Alachua County courthouse building in Gainesville on or about March 25 by Mrs. L. M. Stewart. This is the first record in the county. (Fla. Coop. Sur.).

CORRECTION

CEIR 10(15):253 - Note on CUTWORMS (*Agrotis* sp.) from Idaho, in ADDITIONAL NOTES, should be changed to read ARMY CUTWORM (*Chorizagrotis auxiliaris*).

ADDITIONAL NOTES

NEW YORK - In eastern area, EUROPEAN RED MITE (*Panonychus ulmi*) eggs present in most orchards, but in smaller numbers than usual and FRUIT TREE LEAF ROLLER (*Archips argyrospila*) egg masses fairly common in orchards which adjoin woods. On April 6, in eastern area, overwintering CODLING MOTH (*Carpocapsa pomonella*) shows 45 percent mortality. In Columbia County, EUROPEAN RED MITE eggs not too numerous, but can be found in all orchards; SAN JOSE SCALE (*Aspidiotus perniciosus*) will be a problem in a few orchards; TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) can be found in most orchards, but not too numerous; and PEAR PSYLLA (*Psylla pyricola*) eggs were observed on April 6, apparently being laid on April 4. CLOVER LEAF WEEVIL (*Hypera punctata*) larvae observed on ladino clover on March 28 in Dutchess County and several adults of ALFALFA WEEVIL (*Hypera postica*) were caught on stickyboard traps on same date. TARNISHED PLANT BUG (*Lygus lineolaris*) and CLOVER LEAFHOPPER (*Aceratagallia sanguinolenta*) also observed on forage crops in Dutchess County. Swarms of EASTERN SUBTERRANEAN TERMITE (*Reticulitermes flavipes*) have occurred on Long Island and in thelower Hudson River Valley since late March. A species of a CARPENTER ANT (*Camponotus nearcticus*) was collected from an Ithaca home on March 30. (N. Y. Wkly. Rpt.).

NEVADA - Warm weather caused ELM LEAF BEETLE (*Galerucella xanthomelaena*) adults to emerge from hibernation earlier than usual in Lovelock, Pershing County. The species has been a great nuisance to home and motel owners by invading their premises. (Martinelli). Larvae of several species of MOSQUITOES (*Aedes dorsalis*, *A. melanimon*, *A. nigromaculis*, *Culex tarsalis*) are present in varying numbers in Reno-Sparks area, Washoe County. *A.hexodontus* larvae very numerous in Lake Tahoe area, and *A. campestris* adults present in Fallon area, Churchill County. (Chapman).

An EARWIG (Euborellia cincticollis) specimens collected from pink bollworm light traps in Moapa Valley (Logandale, Overton), Clark County, in 1959 were identified as this species by A. B. Gurney. This appears to be the first record of the species in Nevada. EUROPEAN EARWIG (Forficula auricularia) becoming active in Reno-Sparks area, Washoe County. (Bechtel).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. ips.	Feltia subterr.	Prod. ornith.	Perid. marg.	Helio. zea
ARIZONA						
Mesa 3/28-4/3				8	15	7
ARKANSAS						
Morrilton 3/31-4/6		2				
Kelso 3/31-4/6	1	1			3	
Fayetteville 3/31-4/6		1				
FLORIDA						
Gainesville 3/24			1	1		
Monticello 3/23,29	1		14			
KANSAS						
Mound Valley 4/1-2,5,7		8				
LOUISIANA						
Baton Rouge 3/25-31	12	4	10	13	2	1
Baton Rouge 4/1-7	6	6		2		1
Franklin 4/5,7		3	2	1		1
MISSISSIPPI						
*Stoneville 4/1-7	8	5	1	7	19	
SOUTH CAROLINA						
Charleston 4/4-10	4		7		1	
Clemson 4/2-8	5	4	1	54	2	
TENNESSEE (Counties)						
Monroe 3/29-4/4	2	3		2		
Madison 3/29-4/4	1	1		1	1	
Maury 3/29-4/4		2				
Cumberland 3/29-4/4	1					
Greene 3/29-4/4				1		
Blount 3/29-4/4		5		3		
TEXAS						
Waco 4/2-8	13		6		36	1
Brownsville 3/12-4/1	61	176		13		396

Additional Collections

BEET ARMYWORM (Spodoptera exigua) - ARIZONA (Mesa, 3/28-4/3) - 27; LOUISIANA (Baton Rouge, 4/1-7) - 1.

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* Two traps - Stoneville

Potato Psyllid Survey in the Spring Breeding Areas of Arizona, California, New Mexico and Texas - 1960

A potato psyllid (Paratrioza cockerelli) survey was conducted March 23-25 in the overwintering areas of Arizona, California and New Mexico, and from March 7-22 in Texas. Wild Lycium, the preferred overwintering host, was abundant in California and Arizona, being much further developed than in previous years, and was generally in excellent condition in those States. Fruit had already set on most plants, except in the Las Cruces area of New Mexico, where it was just coming into bloom. In the Texas area, Lycium was dormant or near dormant in many of the areas surveyed. It is possible that higher potato psyllid counts could be found on the host plants after they are fully leafed out. Temperature and moisture conditions have been abnormal this past winter in Texas; consequently, Lycium growth and leafing processes have been retarded in that State.

Potato psyllid counts at most stops in Arizona and California were high, while in New Mexico they were lower than in past years. Numerous nymphs and eggs were present at better than half of the stops, exceeding the adult counts in many cases. However, it should be pointed out that the 1960 survey was made 2 or 3 weeks later than in past years. Considering the fact that the survey dates were delayed in 1960 and the fact that there were numerous eggs and nymphs present, the survey tends to indicate that a potato psyllid population comparable to 1959 is present in both the Arizona and California areas. Therefore, potentially severe outbreak populations, particularly west of the Rocky Mountains, are forecast.

A comparison of populations found in 1957, 1958, 1959 and 1960 spring surveys is shown on the following table.

Potato Psyllid Survey on Overwintering Hosts

State	District	Average Number Per 100 Sweeps			
		1957	1958	1959	1960
Arizona	Phoenix-Tucson	95	93	992	665
California	Blythe-Barstow	143	96	237	282
New Mexico	Las Cruces	158	7	54	2
Texas	Big Spring (Howard County)		227	24	5
	San Angelo (Tom Green County)		219	29	32
	Del Rio (Val Verde and Kenney Counties)		134	55*	16
	Marathon-Sanderson (Terrell, Pecos, Brewster Counties)		201	44*	5
	El Paso (El Paso, Hudspeth Counties)		6	42	0.22

* 1959 figures from Del Rio and Marathon-Sanderson districts revised.

BOLL WEEVIL SURVIVAL SURVEYS IN TEXAS, NORTHEAST LOUISIANA, MISSISSIPPI AND NORTH AND SOUTH CAROLINA, SPRING OF 1960

Spring collections of woods trash samples were taken in five states during the spring of 1960 to determine the number of live boll weevil (Anthonomus grandis) adults that survived the winter in the surveyed areas. Each sample taken consisted of two square yards of trash and, in general, were taken at the same locations where the samples were taken for the fall hibernation survey in 1959. Three samples were taken at each location. (See CEIR 9(52):1061 and CEIR 10(1):4 for details concerning the fall hibernation survey). The results of the spring survival survey are tabulated on page 296. Comparative figures for the spring survey in 1959 are also included on this table, as well as the number of weevils that entered hibernation during the fall of 1959. The details of the 1960 survival survey are contained in the following paragraphs.

TEXAS - Collections of woods trash were started on March 10 and were completed on March 22. Samples were made from the same locations as in the fall hibernation survey in Falls, Hill, Limestone and McLennan Counties; 6 or 7 samples in each county. Seventy-five samples were taken from a total of 25 locations in the 4 counties. The area average was 2,065 weevils per acre, with a survival percentage of 31.14. (C. R. Parencia, C. B. Cowan, J. W. Davis).

LOUISIANA - Collections of woods trash samples were made in the northeastern area of the State from March 8 through March 22. The area was comprised of East Carroll, Madison and Tensas Parishes. The average for the three-parish area was 4,748 weevils per acre, with the percentage of survival at 59. During the 24 years that these records have been maintained in Madison Parish, the number of weevils per acre (4,721) found in the spring of 1960 is the highest for the 24-year period. Likewise, the percentage of survival in Madison Parish (96), is very high compared with the 41 percent recorded for the 24-year period. In the Louisiana area, samples were taken at 30 locations; 20 in Madison Parish, 5 in East Carroll Parish and 5 in Tensas Parish. (G. L. Smith, T. C. Cleveland, E. Read, Jr., J. Williams).

MISSISSIPPI - Collections were started on February 23 and all examinations were completed on March 25. Samples were collected by personnel of the Plant Pest Control Division and were processed by personnel of the Entomology Research Division. In each county, either 7 or 8 samples were taken. Wherever possible, samples were taken at the same locations that were sampled during the hibernation survey in the fall of 1959. Four counties make up each area and the State was divided into four areas as follows: lower delta (Sharkey, Issaquena, Yazoo, Humphries Counties); central delta (Washington, Bolivar, Sunflower, Leflore Counties); north delta (Coahoma, Tunica, Quitman, Panola Counties); and hill section (Holmes, Madison, Noxubee, Monroe Counties). Ninety samples were taken from a total of 30 locations in each of the four areas, making a total of 360 samples taken in the State. The State average was 821 weevils per acre in 1960 compared with 464 in the spring of 1959 and 392 in 1958. (M. E. Merkl; Delta Br., Miss. Exp. Sta.).

NORTH and SOUTH CAROLINA - Spring surface woods trash examinations were made during the period March 14-25 in the same four representative areas in which fall examinations were made in 1959. In each area, a total of 30 locations was sampled. The same locations were sampled in both the fall and spring examinations. The areas surveyed are as follows: South central South Carolina (Orangeburg, Dorchester, Bamberg Counties); Coastal Plain of South and North Carolina (Florence, Darlington, Marlboro Counties, S. C.; Scotland County, N. C.); Piedmont of South and North Carolina (Anderson, Greenville, Spartanburg Counties, S. C.; Mecklenburg, Cleveland, Union Counties, N. C.); and north central North Carolina (Nash, Wilson, Franklin, Edgecombe Counties). The average number of live weevils per acre in these areas was 861, 1049, 590 and 377, respectively. The percent survival in these areas was 65.3, 20.6, 13.5 and 45.2, respectively. In Florence County, South Carolina, an average of 1,560 weevils per acre was found in the spring of 1960, with a winter survival of 28.7 percent. The survival is approximately 50 percent less than the average of the 17 years for which fall and spring surface woods trash examinations have been made. In recent years (1947 to present), only in 1952, 1957 and 1958 have less weevils been found than in 1960. (A.R. Hopkins, H. M. Taft, PPC).

Summary of Woods Trash Examinations for Live Boll Weevils

State	Area or District	Number of Live Weevils Per Acre			Percent Spring Survival	
		Spring 1959	Fall 1959	Spring 1960	1959	1960
Texas	Central	--	6,631	2,065	--	31.14
Louisiana	Northeastern	2,246	8,097	4,748	39.0	59.0
Mississippi	Lower delta	781	4,215	1,088	17.68	25.63
	Central delta	364	8,513	1,353	7.73	16.12
	North delta	284	4,787	338	9.43	6.67
	Hill section	429	2,991	504	14.10	16.51
North and South Carolina	South central section of South Carolina	699	1,318	861	70.2	65.3
	Coastal Plain of North Carolina and South Carolina	1,963	5,082	1,049	42.4	20.6
	Piedmont section of North Carolina and South Carolina	242	4,383	590	9.2	13.5
	North central North Carolina	81	834	377	9.0	45.2

Stored-Grain Insect Survey in Missouri

Summary: For some time there has been need for an extensive survey of stored-grain pests in Missouri. This task was undertaken the past year. In December of 1959, and in January and February of 1960, 982 samples of grain from 74 counties were taken. The grain checked was wheat which had been in storage for more than one year. The average size of the sample was 2.2 quarts. The wheat was checked for all stored-grain pests and for the presence of rodent pellets. From this, the number of samples grading weevily by U.S.D.A. grain grading standards and the number of samples with rodent pellets in excess of F.D.A. tolerances, were determined.

The percent of samples infested in each district is as follows:

District #1	-	60
District #2	-	52.2
District #3	-	60.7
District #4	-	66.2
District #5	-	58.3
District #6	-	58
District #7	-	46.6
District #8	-	45.4
District #9	-	48.4

Of the total 982 samples checked, 56 percent was infested, 23 percent graded weevily, and 4.7 percent contained more than 2 rodent pellets per quart. The high counts of insects are in the table on the following page. (Kyd, Thomas, Munson).

Stored-Grain Insect Survey in Missouri
December, 1959 - February, 1960

District	Number Samples	Number Samples Infested	Number Samples Grading Weevily by U.S.D.A. Grain Grading Standards	Number Samples With Rodent Pellets in Excess of F.D.A. Tolerances	High Counts of Insects		
					Collection	Primary	Secondary
1. (9 Counties)	55	33	15	1	1	---	19 saw-toothed grain beetle and 33 flat grain beetle
2. (6 Counties)	40	21	8	3	1	---	30 flat grain beetle
3. (8 Counties)	112	68	28	5	1	42 rice weevil	65 flat grain beetle
					2	---	78 saw-toothed grain beetle
4. (7 Counties)	71	47	23	6	1	178 rice weevil	---
					2	---	216 red flour beetle
5. (15 Counties)	218	127	61	12	1	---	1,117 flat grain beetle and 124 saw-toothed grain beetle
					2	42 rice weevil	---
6. (12 Counties)	205	119	43	3	1	1 rice weevil	275 flat grain beetle and 42 saw-toothed grain beetle
7. (7 Counties)	148	69	22	4	1	---	224 saw-toothed grain beetle
					2	47 rice weevil	---
8. (3 Counties)	11	5	1	1	1	---	14 cadelle and 20 flat grain beetle
9. (7 Counties)	122	59	27	11	1	60 rice weevil	---
					2	73 rice weevil	---
					3	---	4,272 saw-toothed grain beetle
					4	---	2,238 saw-toothed grain beetle
Totals	982	548	228	46			

STATUS OF SOME MORE IMPORTANT INSECTS IN THE UNITED STATES

SPRUCE APHID (*Aphis abietina* Walker)

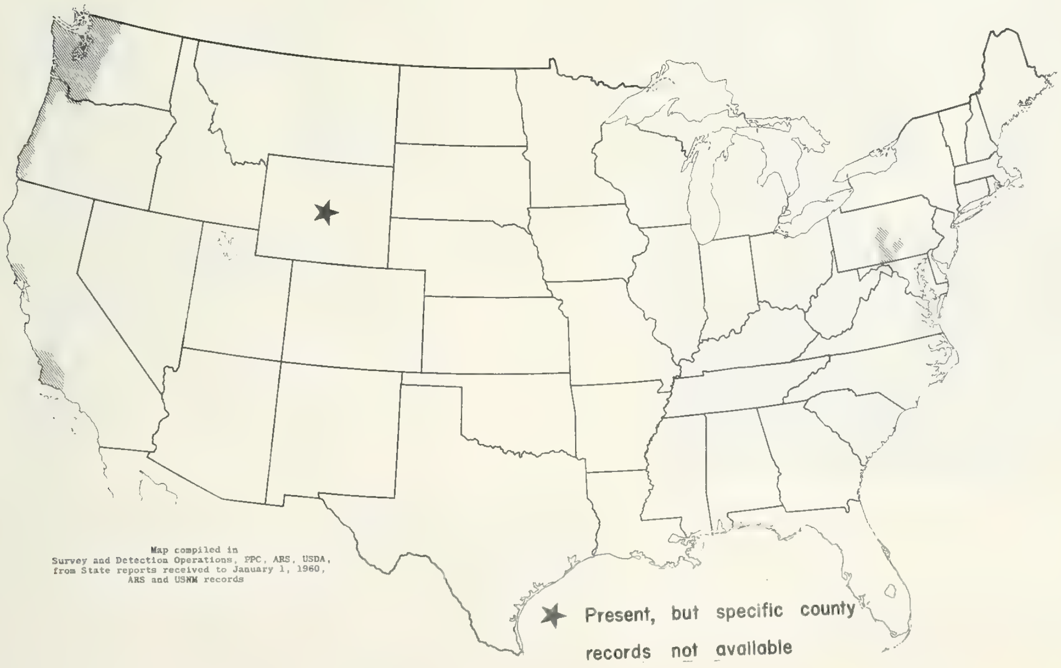
Economic Importance: This aphid, described in 1849, was never known as a serious pest until the summer of 1913 in England. The species was first reported in North America by R. C. Treherne about May 1, 1914, in Stanley Park, Vancouver, British Columbia, Canada, where it caused very serious damage to spruce. This insect is now considered to be a most destructive pest of forest trees in the northwestern United States. Millions of board feet of Sitka spruce have been killed along the tidelands of the Oregon and Washington coast and along the Columbia River in coastal areas. This pest has also caused considerable damage to Sitka spruce in some of the better inland sites of Oregon and Washington. The aphid apparently has an alternate host in the northwestern United States, as it disappears from Sitka spruce in mid-summer and reappears again the next spring.

Distribution: Recorded in Austria, England, Germany Ireland, Netherlands, Norway, New Zealand, Canada and the United States (see map).

Hosts: Sitka spruce (*Picea sitchensis*) appears to be the preferred host and is usually more severely attacked than the other species of spruce. Several other spruce species are also recorded as hosts ,including *P. engelmanni*, *P. abies*, *P. glauca*, *P. glehni*, *P. orientalis* and *P. pungens*.

Life History and Habits: The life history as reported in England is as follows: Apterous forms have been found from early January to December, with the first alate forms occurring a little past mid-March through August. No sexual forms are known to occur. Trees attacked by this pest show comparatively few individuals until the end of September, when the aphid becomes fairly common. The winter forms seldom produce young. At this time, both mature and immature apterous viviparous females occur. Where an infestation is serious, they may live on the infested trees throughout the winter. Apterous forms usually occur along the

DISTRIBUTION OF SPRUCE APHID (*Aphis abietina*)

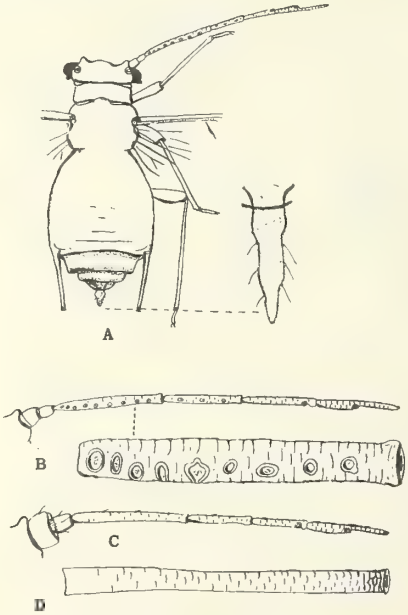


Map compiled in
Survey and Detection Operations, PPC, ARS, USDA,
from State reports received to January 1, 1960,
ARS and USNM records

needles, a single one settling on each needle and giving rise to a colony of young which repeat the process. Where the apterous mother feeds, a yellow spot occurs; sometimes with a reddish tinge which later darkens. When two or three of these spots are present on old trees, the needles are killed, while with young aphids, feeding seldom completely kills the needles. This aphid does not seem to attack new growth except in the autumn and winter, and the pest is very sluggish in both the alate and apterous forms.

Description: APTEROUS VIVPAROUS FEMALE - General color yellowish-green to green. Head yellowish-green to fawn colored, with 2 foveae. Eyes dull red. Antennae about half length of body, pale yellowish-green, darker at tips. Legs green, with tarsi, tips of femora and tibiae dusky. Cornicles pale green, with dusky tips; long and slender, about one-fourth the length of body. Abdomen rounded, longer than wide; a dark line on each side. Cauda green, long, sharply tapering and constricted toward the base. Length of body about 1.55 mm., width about 1.0 mm. Cornicles about 0.44 mm. long. Cauda 0.22 mm. long. ALATE VIVIPAROUS FEMALE - General color of head and thorax light brown; abdomen bright green, with four rows of dark spots, one row extending in a slight curve on each side of the median line and the others extending along sides of abdomen. Eyes deep red. Antennae nearly as long as body, yellowish-green at base and dusky green at tips. Legs pale green, tips of tibiae and tarsi dusky. Cornicles pale green to dusky, cylindrical, reaching to tip of long and sharply tapering cauda. Cauda pale green. First antennal segment strongly gibbous; third roughened and with 9-12 sensoria, some as wide as the segment itself; fourth segment has about 4 sensoria; fifth has one sensorium; and sixth antennal segment has usual sensorium at base of unguis. Wings have very variable venation, median vein sometimes once forked in frontwing and occasionally wanting in the hindwing. Opposite wings of the same individual may have wide variation. Length of body 1.6-1.8 mm., width about 0.7 mm. Cornicles about 0.43 mm. long. Cauda 0.25 mm. long. Wing 2.8 mm. long, 1.0 mm. wide. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 10(16):4-15-60.

Damage to Sitka spruce



A - Alate female of A. abietina. B - Antenna of alate female. C - Antenna of apterous female. D - Cornicle.

Major reference: Theobald, F. V. 1914. Ann. Appl. Biol. 1(1):22-36; figures except map and damage. Damage - U. S. Forest Service photograph.

SUMMARY OF INSECT CONDITIONS IN THE UNITED STATES 1/

1959

The summary of insect conditions that was published in the Cooperative Economic Insect Report for the year 1959, beginning in the February 12 issue of volume 10, has been completed except for the notes on forest, ornamental and shade tree insects. As stated in the February 12 issue of the report, however, this section of the 1959 summary will be covered by the "Status Report on Forest Insect Conditions in the United States - 1959", which is prepared by the U. S. Forest Service. Those ornamental and shade tree insects that are not covered in the Forest Service summary, will be covered by a special summary in a later issue of this report.

We are especially grateful to each individual who assisted with the preparation of these summaries, also the cooperators who assembled the information. We are sorry that space does not permit the use of the names of all individuals concerned. Listed below are the names of individuals who submitted the 1959 summaries.

ARIZONA - Leon Moore

ARKANSAS - W. P. Boyer

CALIFORNIA - R. M. Hawthorne

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DELAWARE - P. P. Burbutis

FLORIDA - R. E. Woodruff

GEORGIA - W. C. Johnson

IDAHO - A. R. Gittens

ILLINOIS - C. E. White

INDIANA - J. V. Osmun

KANSAS - L. L. Peters

LOUISIANA - W. T. Spink

MAINE - L. W. Boulanger

MARYLAND - W. C. Harding, Jr.

MINNESOTA - R. G. Flaskerd

MISSOURI - R. E. Munson

MONTANA - G. R. Roemhild

NEBRASKA - R. G. Simpson

NEVADA - R. C. Bechtel

NEW JERSEY - Dept. of Entomology, Rutgers University; N. J. Dept. of Agric.

NEW MEXICO - Gerald Nielsen

NORTH CAROLINA - M. H. Farrier

NORTH DAKOTA - V. V. Goodfellow

OHIO - C. R. Neiswander

OKLAHOMA - H. W. VanCleave

OREGON - R. K. Eppley

PENNSYLVANIA - E. J. Udine

RHODE ISLAND - H. L. Hansen

SOUTH DAKOTA - G. B. Mast

TEXAS - Texas Coop. Sur.

UTAH - G. F. Knowlton

VERMONT - J. W. Scott

VIRGINIA - A. P. Morris

WASHINGTON - C. A. Johansen

WISCONSIN - Wis. Coop. Sur.

WYOMING - A. D. Davison

Also included in the 1959 summary were special notes from the "1959 Summary of Fruit Insect Conditions in New York-New England", compiled by L. W. Boulanger from the 1959 New York-New England Fruit Specialist Conference at Orono, Maine, on November 3, 1959.

1/ Including all reporting states except Hawaii and Alaska, which were carried in CEIR 10(4):46 and CEIR 10(6):74, respectively.

Light Trap Moth Collections in Maine for 1958

(Prepared by A. E. Brower)

The 1958 light trap collections were hampered by much cold, rainy weather; however, during the warmer nights good catches were made. With experience in handling these catches, it can be determined from comparative numbers between the traps and past years about what degree of infestation exists in different parts of Maine, in the case of species more commonly caught. Fuller and more complete dating of each night's catch is required in some instances to be sure which night a flight occurred.

Conditions were not favorable for moth flights during 1958 and no flight of SPRUCE BUDWORM (Choristoneura fumiferana) was indicated. HORNWORM MOTHS were few in numbers except for three unspecified species, two of these species being collected at traps in Aroostook County. An unspecified species of moth was common at some traps in northern Maine and SPOTTED TUSSOCK MOTH (Halisidota maculata) was abundant over the State. FALL WEBWORM (Hyphantria cunea) was numerous at Millinocket and Enfield, both in Penobscot County, and at Kellyland in Washington County. Two unspecified species of NOCTUIDS were common in north central Maine during 1958, as were several species of PROMINENT MOTHS. SADDLED PROMINENT (Heterocampa guttivitta) occurred in noticeable numbers in Round Pond (T 11 R 8) in Lincoln County and at Enfield in Penobscot County. A SPRUCE TUSSOCK MOTH was common at several traps. FOREST TENT CATERPILLAR (Malacosoma disstria) was noticeable only at T 9 R 5, Kellyland (Washington County) and Enfield (Penobscot County). DREPANIDS of birch were noticed in traps in the western and northern parts of the State. More than a half-dozen species of GEOMETRID MOTHS were comparatively very common over much of Maine during 1958. A LEAF ROLLER occurred in numbers at Tim Pond, Dennistown, Dickey and T 9 R 5. A POPLAR LEAF ROLLER was taken in the largest numbers at Enfield, Penobscot County. Three field pests, ARMYWORM (Pseudaletia unipuncta), a NOCTUID (Polia lilacina) and a PYRAUSTID (Nomophila noctuella) were taken in large numbers at East Machias, Washington County. Adults of several species of CUTWORMS were very abundant in the catch of the light trap at Millinocket, Penobscot County. A number of POPLAR BORER (Saperda calcarata) adults were taken near Greenville, Piscataquis County. The above is a summary of the 1958 catches at 24 light traps in the forests of Maine.

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